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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,316	12/05/2003	Peter Haug	1398-03	1368

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EXAMINER

GARBER, CHARLES D

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,316

Applicant(s)

HAUG ET AL.

Examiner

Charles D. Garber

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/05/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. (US Patent Application 2004/0057043) in view of admitted prior art (Admission).

Regarding claims 1 and 6, Newman discloses a system and process for detecting leaks in sealed electronic packages (title and abstract), such as device 40. Examiner considers the articles when sealed are therefore assembled. Since the leak testing occurs after they are sealed they are tested after assembly as in the instant invention. Figure 5 shows test process whereby device 40 to an increased pressure and then to a reduced pressure (see modulated "chamber pressure" trace in the figure). Figure 5 also shows measurement of the change in thickness that occurs (see "deflection due to chamber pressure". Device 40 is considered to have flexible housing

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as evidenced by deflection trace. It may be considered to be "thin" as well. Thin may be defined as "having little extent from one surface to its opposite" according to Merriam-Webster Online Dictionary. As depicted by Newman in the illustrations the device outline shows housing walls to have little extent from one surface to its opposite compared to the housing overall dimension.

Newman does not expressly teach the device may be an electrochemical element which composed of a metal sheet or a metal/plastic composite sheet, and formation of the element in a closed container.

Admission discloses "light and very flexible metal/plastic composite sheet is ... used as the housing material for elements such as" " housings of the electrochemical elements" of "PDAs, organizers, laptops or cellular phones" (paragraph 0003).

Admission also discloses that "In order that this flexible composite sheet rests closely against the inner cell components, it is vacuum-packed, that is to say, a defined reduced pressure is applied before the composite sheet is finally closed, and only then is the composite sheet that encloses the cell components closed in a gastight manner by means of a sealing process."

Admission teaches "Various problems can occur before, during or after the production of the cell. For example, leaks can occur as a result of small holes in the composite sheet" and that "Known methods for testing cells in a softpack or in a thin-walled flexible housing for problems and leaks such as" "reweighing" "use of a light and light sensor to check for fault points or holes" "are time-consuming and costly." (paragraphs 0004-0006)

Newman also discloses the method is an improvement over other "time-consuming" optical tests for leaks. (paragraph 0013)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to test electrochemical element which composed of a metal sheet or a metal/plastic composite sheet which are prone to leak and in need of less time consuming tests.

Regarding claim 2, Newman in the illustrated example discloses increased pressure of about .015 bar (differential) + 3.68 bar (working) or 3.695 bar, which is between about 1 and about 10 bar (absolute) as in the instant invention.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an increased pressure of between about 1 and about 10 bar (absolute), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. In this case the increased pressure of Newman falls within the range of the instant invention and is therefore considered to satisfy the general conditions of the instant invention.

Regarding claim 3, Newman in the illustrated example discloses increased pressure of about .015 bar (differential) + 3.68 bar (working) or 3.695 bar, which is below between about 4 and about 8 bar (absolute) as in the instant invention.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an increased pressure of between about 1 and about 10 bar (absolute), since it has been held that where the general conditions of a claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. In this case the increased pressure of Newman falls close to the range of the instant invention and is therefore considered to satisfy the general conditions of the instant invention.

Regarding claims 4 and 7, Newman, in the illustrated example discloses decreased pressure of about 19 mbar (differential) + 3680 mbar (working) which is 3699 mbar which is substantially above between about 0 and about 500 mbar (absolute) as in the instant invention.

However, Newman discloses equations relating the package properties such as housing stiffness, package internal pressure, package volume as well as observed deflection, chamber working pressure, chamber pressure change and leak rate. With these equations the invention may be used for any variation in the values of these parameters. Examiner considers one having ordinary skill in the art would recognize package structural properties may vary considerably depending on the functional nature of the electronic device or package.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an increased pressure of between about 1 and about 10 bar (absolute), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. In this case, the general conditions of the claim are disclosed in Newman's providing equations relating all the relevant parameters necessary to perform the test under any pressure conditions and still

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determine useful results. This would be very useful depending upon the particular structural properties of the electronic package.

As for claims 5 and 8, Newman discloses measuring change with capacitance, eddy current or laser probes which are non-contacting measurement methods as shown in figures 2-4.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The additional references cited on the accompanying form PTO-892 though not cited above are provided to indicate other prior art non-contact pressure based leak detector methods and apparatus which include one or more features or limitations in common with the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Garber whose telephone number is (571) 272-2194. The examiner can normally be reached on 6:30 a.m. to 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdg

A handwritten signature in black ink, appearing to read "Charles Garber", with a long horizontal flourish extending to the right.

**CHARLES GARBER
PRIMARY EXAMINER**